

**ANNUAL REPORT TO THE TWENTY-SECOND LEGISLATURE
REGULAR SESSION OF 2004
RELATING TO THE NATURAL AREA RESERVES SYSTEM,
NATURAL AREA PARTNERSHIP PROGRAM
AND
THE FINANCIAL CONDITION
OF THE NATURAL AREA RESERVE FUND**

PURPOSE

Section 195-6.6, Hawaii Revised Statutes (HRS), requires an annual comprehensive status report on the NARS (NARS) and the Natural Area Partnership Program (NAPP). This report will include, but not be limited to:

1. Description of activities and accomplishments;
2. Compliance with Chapter 42F, HRS, requirements;
3. Analysis of the problems and issues encountered in meeting or failing to meet the objectives set forth in the management plans;
4. Status of public hunting opportunities;
5. Financial condition of the Natural Area Reserve Fund (the Fund), including receipts and expenditures for the Fund for the previous fiscal year (FY03); and
6. Plans and management objectives for the next fiscal year (FY04).

NATURAL AREA RESERVES SYSTEM (NARS)

1. DESCRIPTION OF ACTIVITIES AND ACCOMPLISHMENTS

The statewide NARS currently consists of 19 reserves with a total of 109,165 acres on five islands. NARS was set up with the mandate of protecting the best remaining examples of native ecosystems and geological sites on state-managed lands, which would act as a yardstick by which to measure changes occurring across the rest of the State. Annual Program activities are based primarily on the long-term integrated management plans developed for each reserve. While NARS is based on the concept of protecting native ecosystems, as opposed to single species, many rare and endangered plants and animals benefit from the protection efforts through NARS. Major management activities implemented according to the management plans include ungulate control, non-native plant control, monitoring, rare species protection strategies and public education. While the majority of the reserves have management plans, the plans are being reviewed and updated as new management actions are identified. To this end, the Department of Land and Natural Resources/Division of Forestry and Wildlife (DLNR /DOFAW) participates in a number of working groups to facilitate increased input by all concerned parties before existing plans are revised and new plans are written. Large-scale management actions, such as fences, may go through the Environmental Assessment process. Management policies approved by the Natural Area Reserves System Commission and the Board of Land and Natural Resources (BLNR) continue to be the general guide for

rule-making and development of management plans for NARS.

Non-native Animal Control.

Ground and aerial surveys of feral ungulates (pigs, goats and deer) were conducted in various reserves. As outlined in the management plans, the type of control measures implemented depended on the reserve location, terrain features and relative abundance of non-native animals. Public hunting, staff hunting, snaring (only in a few remote fenced areas) and strategic fencing were used to control non-native animals in the reserves. Organized control methods (primarily public hunting) eliminated 121 pigs, 11 black tailed deer, 75 axis deer and 1,625 goats (389 by hunters and 874 by aerial control). In addition, small mammal control efforts captured 40 mongoose, 27 feral cats, 2 dogs and 50 coqui frogs (Manuka Natural Area Reserve).

As part of the continuing feral ungulate control Program, fenced rare plant exclosures were maintained on all islands in and adjacent to the reserves. Over 50 miles of existing ungulate control fence were maintained. 6 miles of fence was constructed on the Big Island: 2.5 miles in Manuka NAR, 1.5 miles in the Wright Road Unit of Puu Makaala NAR, and a 10 acre (1-mile) enclosure in Puu O Umi NAR.

The Molokai Hunting Working Group continues to meet and participate as a community in long-term management of NARS, the Nature Conservancy of Hawaii Preserves (TNCH), and portions of Kalaupapa National Historical Park. Public and organized hunting have kept feral ungulate activity levels from escalating. However, there is room for increased control efforts, particularly in the remote pali areas, to reduce damage. The Working Group continues to provide an opportunity for land managers and local community members to interact and gain an appreciation for each other's perspectives while trying to protect and enhance native ecosystems.

The Maui Axis Deer Group, composed of public and private sector members, gathered information/public input and formed sub-committees on Public Information and Deer Management Planning. These sub-committees compiled findings and made recommendations for dealing with various aspects of the issue, including issues of impact to human health, public safety, and the maintenance of healthy native ecosystems. These were presented to the public in August 2002 in a meeting in Kihei.

Efforts continued this year to increase the safety and efficiency of aerial control of feral ungulates by: refining the Department-wide aerial ungulate control policy and standard operating procedures; training several staff to be certified aerial gunners with the aim of having experienced certified personnel on each island; and working on a memorandum of agreements to enable DOFAW to conduct aerial control on private lands within the Molokai and Maui watershed partnership areas initially and eventually statewide.

Non-native Plant Control.

Aggressive non-native plants were cleared from over 2,000 acres in the Kuia Reserve on

Kauai; Kaena Point, Kaala and Pahole Reserves on Oahu; Hanawi and Ahihi-Kinohiwa Reserves on Maui; Puu Alii Reserve on Molokai; Laupahoehoe, and Puu O Umi, Manuka, Puu Makaala and Kipahohoe Reserves on Hawaii. The cleared areas are being monitored to prevent the re-establishment of undesirable non-native plants. Weed control methods include removal by hand and the use of approved herbicides. 1,500 acres were accessed and mapped for weeds in the Hono O Na Pali Reserve on Kauai. Volunteers provided over 3,000 hours of manual labor needed to remove the non-native plants. Bio-control projects continue to be conducted under permit for *Clidemia* in the Hono O Na Pali Reserve on Kauai and for blackberry in the Kaala Reserve on Oahu.

Rare Species Protection and Restoration.

Utilizing staff time and funds as cost-share for Federal Section 6 Grants, numerous rare plant management activities were accomplished within and associated with NARS in the FY 2003. Additional fenced ungulate exclosures were constructed, protecting rare plant species, while existing exclosures were maintained in reserves on all islands. Numerous species were monitored year-round for flowering and seed production so that plant material may be collected for propagation at the mid-elevation nurseries plus DOFAW nurseries at lower elevations. Plant surveys were accomplished in many remote areas of NARS and forest reserves for rare plant distributions and propagule collections.

On Oahu, outplanting efforts and operation of the Pahole Rare Plant Facility at the former Nike site continued. A new rare plant horticulturist was hired for the Rare Plant Facility and is working on producing a master plan for the facility to organize and accommodate their cooperators (US Army, TNCH's Honouliuli Preserve, University of Hawaii Botany Department and many local cooperators and volunteers). A large part of the Facility's mission of education was accomplished by providing educational work trips for 13 different educational, community, civic service, and conservation groups, in addition to University of Hawaii and community college graduate/undergraduate classes. To enhance and stabilize existing/historic rare plant populations at Kaena NAR, a low-elevation nursery was established above Dillingham Air Field on the north shore of Oahu. Oahu staff has taken the lead in working with the Department of Transportation to implement mitigative measures for the endangered *Abutilon menziesii* Habitat Conservation Plan for the North-South Road, East Kapolei, Oahu.

Oahu staff also assisted in the maintenance of 2 predator-free snail sanctuaries to protect the endangered tree snail *Achatinella mustelina* in Pahole NAR and conducted extensive surveys for remaining snails in both the Waianae and the Koolau Mountains Ranges.

On Kauai, staff continued to focus on propagation for outplanting, participated in the Limahuli Watershed Project, and prepared for construction of a large protection and outplanting exclosure in Kuia NAR. Also in Kuia, staff monitored/repaired 5 100-foot by 100-foot exclosures that are part of an on-going research project with the University of California - Irvine and National Tropical Botanical Garden. A full-time horticulturist was

hired to implement the Program.

On Hawaii, the need to connect data between outplanting in NARS and the Volcano Rare Plant Facility was met by creation of a tracking database for the nursery. This database is part of a statewide effort. In the Kipahoe Reserve materials were purchased and clearing was accomplished for the initial phase of a 1600-acre fence. This Project will provide a broad range of protection for rare species by ungulate removal, weed control, and population enhancements by plant outplantings. Management activities in this area include baseline surveys, boundary establishment, shelter construction, pre-suppression tactics for wildfires, monitoring and collection of rare plant propagules plus reintroductions. Staff took the lead outside the Reserve on such projects as Puuwaawaa wildlife sanctuary protection and restoration.

On Maui, construction of the Olinda Rare Plant Facility began with purchase of materials for the nursery and hiring of a part-time horticulturist. For the Kanaio NAR fencing project, a draft environmental assessment was completed and rare plant species outplanting was begun within a protected area of the Reserve. Staff assisted with oversight of the Maui Forest Bird Recovery Project in Hanawi NAR. This Project is dedicated to maintaining suitable habitat for East Maui's native forest birds. In particular, the Project maintains the home range of the poouli, the most endangered wild bird in the World with only 3 individuals remaining. Specific accomplishments this year included: the capture and translocation of a female poouli with the hope of forming a pair bond with the lone remaining male, carrying out recommended avian research and management objectives and creating a short documentary that is aired regularly on Olelo public access television. For additional information on this project see www.mauiforestbird.org.

Research.

Staff recommended approval by the BLNR of 50 Special Use Permits for research and education in the NARS. Staff continues to assist visiting researchers in the field and with logistics, as time allows. Staff review and comment on all research proposals and meet with researchers before they conduct any field work for safety reasons, as well as to insure that the proposed research will enhance the knowledge base of these areas and contribute to the long-term health of the reserves. To simplify the permitting process, staff are now using standardized guidelines and application forms, which are available on the NARS website (www.dofaw.net/nars). This should help avoid unnecessary duplication, direct applicants to the appropriate staff and facilitate timely review and processing.

Staff is conducting research through management to increase the efficiency of predator control, application of bio-control agents, and herbicide trials for weed control.

Monitoring.

Monitoring is necessary to measure the condition and status of natural resources as they

change over time due to environmental factors, human activities and specific management Programs. Different monitoring techniques are used, depending on the type of resource monitored and the level of information needed. Monitoring plots continue to be maintained in a majority of the reserves. Long-term monitoring and maintenance of over 35 miles of weed and ungulate transects was continued in 4 reserves on Hawaii, and 20 miles of ground-based ungulate and weed transect activity were monitored in the Oahu Reserves. 65 miles of ungulate aerial transects were read quarterly in the Maui Reserves. Staff perform resource survey and monitoring as part of their daily work activities.

The data is compiled and maintained at both DOFAW branch offices and the University of Hawaii Natural Heritage Program database. DOFAW's in-house monitoring, Geographic Information System (GIS) and mapping capabilities were enhanced this past year with staff training and the purchase of appropriate software and equipment.

Public Outreach, Youth Activities and Community Involvement.

NARS staff participated in many public outreach activities and planning as part of the Year of the Hawaiian Forest including design and production of a new book to be published in FY04 entitled "Wao Akua: Sacred Source of Life," which highlights the work that a variety of individuals, and organizations are doing to help protect native resources in Hawaii. A teacher resource packet was developed highlighting the complex ecosystems of Hawaiian forests and the function of forests in watersheds. This packet was sent out to more than 30 schools for use in a children's poster contest. These materials were also placed on the DOFAW website for possible access and use by all teachers.

Throughout the year, several workshops and school presentation were given to educate teachers and students about the importance of native resources and NARS. "The Forest Jewels of Hawaii" traveling bird exhibit was sent to the Island of Maui where it was hosted by the Hawaii Nature Center in Wailuku, Maui. In addition, public outreach and service trips were conducted in the reserves, offering teachers and volunteers an opportunity to experience these unique places directly. NARS continues its public outreach campaign to introduce the public to the concept of watershed and its relationship to fresh water. Watershed posters for classrooms and buses were distributed, and ran on the public buses for 3 months. Public service announcements continue to be shown on Olelo and Oceanic Cable.

The Youth Conservation Corps (YCC) expanded again this year to include 5 teams and a total of 68 youth participants on Kauai, Oahu, Hawaii and for the first time, Molokai. The Program lasted 7 weeks and included a team trip to Kahoolawe for most teams. The members contributed a total of 16,616 volunteer hours working on projects such as endangered species restoration, trail maintenance, out-planting, species monitoring, and invasive plant removal. For more information on the YCC, see www.hawaii.ycc.com.

Staff assisted in the organization and funding of the 2003 Hawaii Conservation

Conference, whose theme was “Year of the Hawaiian Forest” in celebration of the centennial of the Hawaii Forest Reserve System, created in April 1903. The event drew the largest number of participants ever (700 registered) and included field trips to Pahole NAR, and other areas where active management and restoration of native ecosystems is being done.

Several volunteer service trips were made to the reserves statewide, totaling over 2,000 work hours and providing volunteers an opportunity to experience these unique places directly.

Websites were maintained to provide: a virtual tour of each reserve and additional information to the public on the NARS mission, policies and procedures, contact information and permitting guidelines (see <http://www.dofaw.net/nars/>); the public and potential partners with information about the Watershed Partnership Program and how to become involved (see www.state.hi.us/dlnr/dofaw/wpp/index.html); and information on present conservation issues for the general public through the innovative website www.conservationhawaii.org.

Infrastructure.

Staff maintained 582 signs throughout NARS. Information and boundary signs were installed or replaced in several reserves. Approximately 125 miles of existing trails were maintained in various reserves, primarily for management purposes. Alien plant control was the major activity along the trails to limit the spread of weeds to new areas. 3 miles of boardwalk in the Alakai Wilderness Preserve on Kauai and the Kaala Reserve boardwalk on Oahu were maintained.

Over 50 miles of existing ungulate control fence were maintained with regularly scheduled inspections, and immediate repairs were made to prevent ungulate ingress and subsequent damage to the resource. Existing helipads were maintained to facilitate management and monitoring and to provide access for emergencies. 15 management shelters were maintained for long-term management actions, and a new cabin constructed in Kipahoehoe NAR. Over 25 miles of roads, mostly on Hawaii and Oahu, were maintained to provide hunter and management access. Road barriers continue to be maintained in the Manuka Reserve on Hawaii to prevent dumping and illegal logging activities. Vehicle barriers continue to be maintained on both sides of Kaena Point to protect the fragile dune ecosystem and cultural sites by prohibiting off-road vehicle use. Similarly, vehicle barriers continue to be maintained at Ahihi-Kinau on Maui to protect geological and cultural features from off-road damage.

Recreation.

Although the primary mission of NARS is resource protection, the reserves provide recreational opportunities for residents and tourists in pursuits such as hiking, photography, kayaking, diving, nature viewing and hunting. Some of the most popular areas for these activities are within the reserves. Providing and maintaining roads, trails,

boardwalks, shelters, interpretative signage and brochures enhance public awareness, access and enjoyment of NARS.

2. COMPLIANCE WITH CHAPTER 42F, HRS, REQUIREMENTS.

All management activities were in accordance with the provisions in Chapter 42F, HRS.

3. ANALYSIS OF THE PROBLEMS AND ISSUES ENCOUNTERED IN MEETING OR FAILING TO MEET THE OBJECTIVES AS SET FORTH IN THE MANAGEMENT PLANS.

Lack of adequate, permanent dedicated funding is now the primary limiting factor in increasing protection and management of NARS, adding new management initiatives, revising and developing management plans, and increasing community relations. However, with short-term federal funding, hard working dedicated staff, and partnering with other landowners and volunteers, the NARS Program is making strides in meeting its objectives.

Last year staff assisted the Chairperson of DLNR in addressing the problems associated with overuse of the Ahihi-Kinau NAR and adjacent state lands. The overuse has lead to resource damage, user conflicts and public health and safety problems. Short and long term solutions have been outlined in a DLNR action plan, presently posted on the NARS website.

4. STATUS OF PUBLIC HUNTING OPPORTUNITIES.

Public hunting continues to be the first control option of choice within NARS, although hunting is not managed on a sustained-yield basis. Increased public hunting opportunities occurred statewide as a result of construction and maintenance of improved access roads and trails.

5. FINANCIAL REPORT.

NARS, on lands under State jurisdiction, is supported through the General Fund, Appropriation 047 (see Table A). Of the \$1,269,000 budgeted for FY03, \$1,171,115 was expended with \$97,885 unused due to either Administration directed delays in hiring or lag time in the state personnel recruitment process.

6. PLANS AND MANAGEMENT OBJECTIVES FOR THE NEXT FISCAL YEAR.

Where appropriate, reserve management activities will be guided by management plans. Activities in several reserves will incorporate recommendations from working groups.

Plan implementation will focus on preventing, eliminating or controlling the spread of non-native plants and animals that have a detrimental effect on native ecosystems. Other management considerations will include local community concerns, monitoring, research, public education, volunteer support and improving access. Youth Programs providing hands-on experiences will continue to be a high priority. For all DOFAW Branches, partnerships will continue to play an important role in the management of the reserves, with resources shared to manage across property boundaries.

In addition to regular management activities, several specific projects will be initiated this year, in part due to DOFAW's success in obtaining several federal grants and the Legislature providing State cost-share from the Fund:

Hawaii: Will complete cultural assessments of Puu O Umi, Puu Makaala, and Manuka NARs. This work will be valuable in the long-term management of the areas as it relates to Hawaiian culture and the strong link between natural and cultural resources. Animal removal (primarily feral pigs) will be conducted in the Wright Road unit of Puu Makaala NAR. Volunteer hunters will assist in the initial phases of animal removal. The Olaa-Kilauea Group, which includes Puu Makaala NAR, continues to be a successful Program with resources shared to manage across property boundaries. The newly signed Kohala Watershed Partnership includes Puu O Umi NAR and plans are to manage across the wider landscape. The recent acquisition of Kahuku Ranch by the National Park Service will aid in the management activities in Kipahoe and Manuka NARs, in addition to other DOFAW-managed lands.

Maui: Will continue to implement the cooperative management fence project for the Puu Alii NAR on Molokai and Kanaio NAR on Maui, and development of an Axis Deer Management Plan for Maui. Partnerships will continue to play an important role in the management of all reserves. Implementation of the Ahihi-Kinai/Keoneio Action Plan is a high priority to help balance protection of the resources with use by the public.

Oahu: Will continue to implement fencing projects in the Pahole Reserve; conduct resource surveys and prepare BLNR submittal for including upper portion of Poamoho section of Ewa Forest Reserve into NARS; work with United States Army in the Makua mitigation process.

Kauai: Will continue to plan, organize and implement a fencing project in Kuia Reserve and continue implementation of the successful rare plant Program.

A new YCC Americorps Program is being developed this year and will begin in FY04 by providing 9 Americorps interns the opportunity to work full-time with staff on 5 islands. The YCC Program is planning to increase the number of students enrolled by adding an additional team on Maui to complement the existing teams.

With increased activity and accomplishments, there is a need for additional funding, as outline in the 2001 Legislative Report regarding funding and staffing needs for NARS. It

is hoped SB1517 SD 2, HD 2, of the 2003 Legislative Session, becomes law as it will then provide an additional stable funding mechanism for NARS and partly address the problems of invasive species. It would increase the Conveyance Tax on properties over a \$600,000 threshold and direct the revenues to the Fund for the above mentioned uses.

NATURAL AREA PARTNERSHIP PROGRAM (NAPP)

PURPOSE

This innovative Program, established by the Legislature in 1991 through Act 326, provides State-matching funds on a 2:1 basis with private funds for the management of natural resources on private lands permanently dedicated to conservation. This Program complements the existing NARS by providing long-term protection and management of unique natural resources on private lands.

NAPP provides support for a full range of management activities to protect, restore and enhance significant native resources and geological features. NARS staff administers the NAPP, although the private applicant carries out all on-the-ground activities. 6-year, long-range management plans provide funding and direction for each NAPP Preserve. Since 1993, a portion of the Conveyance Tax, which is levied each time real estate property is bought or sold, has funded the Program. For more information on the NAPP, see www.state.hi.us/dlnr/dofaw/napp/index.html.

Beginning in FY01, via Act 269, Session Laws of Hawaii 2000, NAPP has expanded its scope to include providing year-to-year funding for watershed projects using the balance of the yearly allotment. Watershed management is an efficient way to manage the natural landscape against threats to the health of the forest and more effectively protect and utilize these areas for the good of Hawaii's citizens. In FY03, this Program provided funding and technical support to protect over 740,000 acres in several watershed partnerships: East and West Maui Watershed Partnerships, Koolau Mountain Watershed Partnership on Oahu, Lanaihale Watershed Partnership, East Molokai Watershed Partnership, Kauai Watershed Alliance, the Olaa Kilauea Partnership and the Kohala Mountain Watershed Partnership. Projects focus on alien species control and fencing. For more information on NAPP watershed projects, see www.state.hi.us/dlnr/dofaw/wpp/index.html.

1. DESCRIPTION OF ACTIVITIES AND ACCOMPLISHMENTS.

NAPP Preserves

KANEPUU PRESERVE

Landowner:

Managing Partner:

Entered NAPP:

Dole Food Company, Inc.

The Nature Conservancy of

Hawaii (TNCH)

FY92

Kanepuu Preserve comprises 590 acres in 7 distinct units and represents the last major remnant of a dryland forest community which once covered large portions of Maui, Lanai, Molokai and Kahoolawe. 10 rare plants, 6 of them federally listed, have been reported from the Preserve. Protection from axis deer, control of non-native plant species, and use of the Preserve as a focal point for dryland forest restoration and research have been the primary management activities. In FY03, the Kahue Unit was fenced with stainless wire, and 9,636 linear feet of stainless wire was installed along the north and east section of the Kanepuu Unit. Also as part of the effort to control the ungulate population, the volunteer public hunting Program removed 19 deer. These restoration efforts have led to one of the few naturally regenerating populations of endangered *Hibiscus brackenridgei* (the State flower) in the State. Public outreach efforts included volunteer docents leading Preserve hikes for the general public. The self-guided nature trail continued to provide additional educational opportunities. In FY04, TNCH plans to finish installing stainless wire around the Kanepuu Unit and to outplant all plants in the nursery. Also, the fuel break around the Preserve will be maintained.

KAPUNAKEA PRESERVE

Landowner:

Pioneer Mill Company, Ltd.

Managing Partner

TNCH

Entered NAPP:

FY92

This 1,264-acre Preserve is a component of regional protection efforts for the important watershed and native ecosystems found in the West Maui Mountains. Containing 10 native communities, 29 rare species of plants (10 federally listed), as well as 4 rare snail species and the endangered Hawaiian hoary bat, the Preserve's upper elevations are recognized as among the highest quality native areas in the State. Highlights this past year include: completion of 1 snare check cycle and annual ungulate threat monitoring to assess animal damage across the Preserve; repair of strategic fences and vandalized gates to ensure a secure barrier against pig ingress; control of priority weeds such as *Tibouchina herbacea* above 3,200 feet. Also, considerable time was spent: (1) Training the field staff of the West Maui Mountains Watershed Partnership (WMMWP) in resources management; (2) Planning for strategic fencing and animal control throughout neighboring WMMWP lands; and (3) The cultivation of West Maui cultural and political leaders as advocates for watershed protection. In FY04, aerial weed surveys are planned for higher elevations, ungulate control efforts will be improved, and training will continue to be provided to WMMWP staff.

PELEKUNU PRESERVE

Landowner:

TNCH

Managing Partner:

TNCH

Entered NAPP:

FY92

Pelekunu Preserve, located on the north shore of Molokai, is a 5,759-acre Preserve established to protect the free-flowing Pelekunu Valley stream system, one of the best in the state. It is also part of a larger regional management effort that provides protection to over 25,000 contiguous acres on Molokai. Pelekunu contains nearly all the native Hawaiian freshwater fish, crustacean and mollusk species. In addition, 28 rare plant, 6 endemic forest bird and 2 endemic land snail species have been reported from the area. Protection of the watershed by reducing ungulate damage and reducing the spread of non-native plants are the primary management activities. Feral ungulate control and monitoring in the back portion of the Preserve remained the primary focus in FY03. Public hunting continued to be utilized through the Molokai Hunting Working Group. During FY03, 3 goats and 27 pigs were removed through ground hunting. Public outreach Programs continued with public lectures, hikes, the support of interns, *Alu Like*, and summer youth Programs. In FY04, TNCH will continue to conduct staff led volunteer hunts along with monitoring for ungulate activity in the Preserve. Weed control efforts will focus on manual control of habitat-modifying weeds, like *Clidemia*. TNCH is also helping the Hawaii Department of Agriculture field-test a suitable

biocontrol agent for *Clidemia* on private lands near the Preserve. In addition in FY04, an aquatic monitoring session is planned, and community outreach efforts will continue with guided hikes to the Preserve overlook.

PUU KUKUI WATERSHED MANAGEMENT AREA (WMA)

Landowner:	Maui Land & Pineapple Co.
Managing Partner:	Maui Land & Pineapple Co.
Entered NAPP:	FY94

With over 8,660 acres, the Pu`u Kukui WMA is a critical component of regional protection efforts on West Maui's 50,000 contiguous acres. 14 native natural communities, 2 of them rare, are found in the Preserve along with over 40 rare plant species and 6 endemic species of land snails. Primary management efforts were focused on the removal of feral ungulates and control of non-native plant species. Feral ungulate control efforts were increased resulting in low to no animal activity levels observed in the high-priority upper elevation areas of the Preserve. 47 pigs were caught in the lower areas or below the Preserve boundaries by hunters with permits from Maui Land & Pineapple Co. 2 new feral ungulate control fences were constructed along lower elevation boundaries units. Small mammal trapping was conducted for rats in several locations. Control measures continued for populations of high-priority non-native plant species, including *Clidemia*, *Psidium* and *Tibouchina*. Limited control and monitoring of the cannibal snail continued at various elevations in the Preserve. A number of plant survey trips documented the presence of new populations and new species records for the Preserve. Several research projects were carried out in the Preserve with logistical support provided by Preserve staff. Protection of the fragile bog ecosystem was enhanced through upgrading and adding to the boardwalk in the high-elevation region of the Preserve to replace existing trails. In FY04, a mid-elevation plant nursery will be constructed next to the Haelaau cabin in order to begin restoration efforts of the native loulu palm *Pritchardia forbesiana*, a West Maui endemic. 2 multipurpose

(pig/deer/human) control fences are planned for installation below the Preserve boundary to create a buffer zone of currently undeveloped agriculture –zoned land. Additional multi-purpose fences are planned annually for the remainder of the current NAP agreement until the entire lower Preserve is protected by a buffer zone of undeveloped or low impact agriculture uses, such as tracts of select native hardwoods.

KAMAKOU PRESERVE

Landowner:

Molokai Ranch, Ltd.

Managing Partner:

TNCH

Entered NAPP:

FY95

This 2,774-acre Preserve helps increase regional protection efforts for the important watershed and native communities found in East Molokai. 40 of the plant species are rare, of which 23 are considered federally endangered. In addition, the Preserve protects habitat for 5 native forest bird and 5 rare native land snail species. In 2003, a portion of the Preserve was designated as “critical habitat” for the endangered Blackburn’s sphinx moth. The primary management focus is to prevent degradation of the native forest by reducing feral ungulate damage, limiting the spread of non-native habitat-modifying plants, and preventing wildfire. Feral ungulate control activities use humane, live pig traps and volunteer hunters from the Molokai Community. Staff and volunteer groups removed *Clidemia*, strawberry guava, New Zealand flax, black wattle, Christmas berry, rose, ginger and blackberry in the Preserve. Monitoring transects were also maintained. Preserve staff provided logistical support for several research projects conducted in the Preserve. Public outreach Programs continued to be important both on- and off-site. Continuing the successful live, humane trapping of pigs will be the focus of ungulate control efforts in FY04. The bulk of staff and volunteer time will be spent on controlling habitat-modifying weeds in the Preserve. Other activities will include supporting researchers, conducting community outreach, and maintaining the Preserve’s facilities.

MOOMOMI PRESERVE

Landowner:

TNCH

Managing Partner:

TNCH

Entered NAP Program:

FY95

This 921-acre Preserve contains one of the largest and best remaining dune ecosystems in Hawaii. Moomomi contains 8 rare plant species and 1 rare native plant community. Green sea turtles, wedge-tailed shearwaters, Laysan albatrosses, and Hawaiian monk seals are known to use the area. In addition, Moomomi contains significant archaeological, paleontological, and cultural resources. Ungulate control activities in FY03 centered on maintaining fences to exclude domestic cattle from entering the Preserve. Non-native plant control for FY03 (by both staff and volunteers) focused on removing kiawe, Australian saltbush and *Reichardia tingitana*. Protection of important cultural sites continued through cooperative efforts with DLNR’s Historic Preservation Division and local community groups. Community outreach Programs included Preserve hikes and off-site activities. In FY04, staff will continue to conduct fence surveys, implement protection strategies for nesting wedge-tailed shearwaters, control habitat-

modifying weeds, and conduct community outreach activities.

WAIKAMOI PRESERVE

Landowner:

Haleakala Ranch Company

Managing Partner:

TNCH

Entered NAP Program:

FY95

This 5,230-acre Preserve helps increase regional protection efforts for the important watershed and native species habitat found in the East Maui Watershed Area. Waikamoi provides habitat for 13 native bird species, 8 of which are federally listed as endangered. 14 native natural communities, 2 of them rare, are found in the Preserve along with 30 rare plant species. The primary strategy for the protection of Waikamoi is to reduce damage to vegetation and soils by removing all ungulates. In FY03, ungulate control activities continued, with pig activity remaining moderately low. Staff completed 1 snare check cycle in Waikamoi and the adjacent Koolau Gap, while also conducting the annual ungulate threat monitoring for animal damage across the Preserve and in adjacent East Maui Watershed Partnership (EMWP) lands. Considerable effort was made to train, lead, and assist the EMWP field teams in fencing, community hunts, field operations, and strategic management throughout neighboring lands. Habitat-modifying weed species were controlled, including kahili ginger, pines, and blackwood acacia, as well as adjacent incipient weeds located on Haleakala Ranch pastures which threaten the Preserve. In addition, staff led *Miconia* monitoring and control of satellite populations to prevent its establishment in the Preserve. Staff bolstered existing endangered plant populations through monitoring and threat mitigation. Botanical surveys led to the discovery of additional endangered plant populations within Waikamoi. Existing infrastructure (trails and landing zones) were improved for better remote site access and animal control opportunities. Americorps volunteers and monthly service trips greatly increased capacity for both weed and ungulate control, while TNCH docents and National Park Service interpreters conducted educational hikes for the public. Service trips helped with non-native plant species control and provided further educational opportunities. Other public outreach efforts focused on community and school groups in the EMWP region. In FY04, weed threats will be comprehensively mapped, fences repaired, and ungulate control efforts will be stepped up in problem areas of the Preserve.

NAPP Watershed Projects

East Maui Watershed Partnership

Under the leadership of the EMWP Coordinator and working out of a baseyard at Piipiholo in Makawao, a field operations supervisor and a public information officer were hired to compliment the existing crew of 4. Accomplishments included: Secured short term funding through several sources, particularly the United States Fish and Wildlife Service (USFWS) Landowner Incentive Program; installation of 1.4 miles of fenceline along the 3,600-ft contour of windward Haleakala; construction of management trails in support of future feral animal removal Programs; staff training; partnered with adjacent agencies conducting feral animal and weed removal; surveyed and mapping areas within the watershed for future management actions; constructed a 5-acre enclosure fence in Kanaio NAR; and repaired the feral ungulate fence in Hanawi NAR. In FY 04, the crew will continue activities outlined in the management plan, particularly the construction of the contour fence and support infrastructure, such as required management trails and shelters.

West Maui Mountains Watershed Partnership

In FY 03, the 6-person crew: prioritized fence construction within the Watershed; implemented animal control efforts; controlled non-native weed species; and implemented other management actions identified in the management plan. Resources, erosion, and illegal activities (such as marijuana cultivation) were reviewed and considered in order to schedule these activities. 13 strategic fences were constructed to control the ingress of wild cattle and feral pigs. The combination of fencing in conjunction with hunting and trapping were effective in considerably reducing the feral pig population. Additionally, a population of over 50 wild cattle near the summit of Hanaula was removed. 6 new monitoring transects were established in the watershed. These transects were added to the existing GIS database which will be used to identify, map, and prioritize invasive weed management. To address motorcyclists who were causing erosion and building illicit trails in conservation district, several inexpensive barriers made of cattle panels were erected, nonnative trees were dropped and strewn across illegal trails, and signs were posted. In FY'04, the crew will continue similar activities as last year, as outlined in the management plan.

East Molokai Watershed Partnership

Feral ungulates have been impacting the East Molokai Watershed damaging vegetation and causing erosion throughout the Watershed. In order to address this issue, goats and pig removal has been a top concern. Last year, aerial shooting trips have resulted in the reduction of 900 goats while helicopter assisted hunts have reduced the population by another 500 goats. The fence that was constructed has been effective in keeping the majority of the goats away from the upper native forest, which has been showing positive signs of recovery. Additionally, pig control efforts above the fence are ongoing and

include public/community hunts as well as the use of live traps. These hunts and traps have resulted in the capture of approximately 20 pigs. In FY 04, activities include those outlined in the management plan, particularly aerial shooting, fence maintenance and ground control above the fenceline.

Olaa Kilauea Partnership

The Olaa Kilauea Partnership directed management activities towards fencing, weeding, and ungulate removal within the Wright Road Unit. The Partnership staff, along with DOFAW staff and Kulani Correctional Facility inmate crews cooperated to construct 1.5 miles of new fence and upgrade 3 miles of fencing to completely enclose the 2,300 acre Wright Road Unit. Staff controlled alien plants, particularly yellow Himalayan raspberry, along the fence corridor during the construction and installed transects in the unit to monitor pig activity and alien plants. Pig control in an adjacent unit has successfully been completed leaving the unit pig-free. Staff control will be used in the Wright Road Unit after several months of public hunting is completed.

Koolau Mountains Watershed Partnership (KMWP)

The KMWP Coordinator was hired in April 2002. Since that time, the Coordinator worked towards establishing the KMWP as a functional organization and implementing of the KMWP Management Plan. Infrastructural support, including vehicular transport, technology needs and office supplies have been established in DLNR's Waimano Baseyard. Following the infrastructural set-up, several meetings were held with partners to prioritize management activities. KMWP staff worked with the Hawaii Natural Heritage Program (HINHP) to develop a list of priority areas for biological surveys. It was decided that priority would be given towards the surveying of the Oahu Forest National Wildlife Refuge. Aerial surveys were then conducted on the Refuge and HINHP was subsequently contracted for the survey and report writing of the area. Additional information gathering that will be used for management strategies was obtained through the use of a Watershed Valuation Analysis. KMWP worked with the Geography Department at the University of Hawaii to develop this analytic tool which models watershed values, vulnerabilities, and costs and benefits for ungulate management strategies. Other activities conducted by KMWP staff include organizing 3 outplantings (over 400 volunteer hours) in cooperation with partner agencies and the Boy Scouts to plant 2850 seedlings. Staff also conducted public outreach activities including the distribution of KMWP brochures at the Hawaii Conservation Conference, planned and coordinated the Watershed Symposium, and secured \$416,000 in grant awards to be used in upcoming reforestation projects, biological surveys, fencing, and funding for field technicians.

Kohala Mountain Watershed monitoring and fence construction

The primary objectives of this project was to: (1) Initiate on-the-ground projects in the watershed by improving 6 miles of boundary fence between the State lands of Puu O Umi NAR /Kohala Forest Reserve and Parker Ranch pasture and; (2) Collect critical baseline data needed to prioritize management of the Kohala Watershed, to maintain the health

and integrity of the forest and to measure the effectiveness of management actions. The management strategy is to prevent ungulate damage; survey, document and map priority invasive exotic species such as banana poka, Himalayan raspberry, *Miconia*, *Clidemia*, christmasberry, waiawi, Australian tree fern, karaka nut and kahili ginger; and monitor rare elements as indicators of forest health. The objectives were met. In part due to the cooperative nature of these projects, landowners were confident they could work together, leading to the signing of the Kohala Watershed Memorandum of Understanding (MOU) in August, 2003. In FY 04, the Partnership Plan on developing a management plan, continue monitoring and extending the boundary fence along Kahua Ranch.

Kona Soil and Watershed Conservation District Watershed Project

Several rounds of community meetings were held at North, South, and Central Kona to gain valuable insight and public concerns. Steering committees and technical committees were formed to review preliminary concerns and objectives and a technical writer was hired to prepare a monthly display in the West Hawaii Today Newspaper. These displays featured different aspects of the planning process and explain problems existing in the watershed. A webmaster was also hired to host and design a website to use maps and photographs to reach the general public.

Watershed Monitoring and Database Development

The objective of this ongoing project is to provide watershed partnership coordinators monitoring and mapping support for their areas. Over the past year, members of the Hawaii Natural Heritage Program (HINHP) staff met with members of the Oahu and Maui Watershed Partnerships to discuss database and GIS needs for weed and ungulate monitoring. Ideally, all watershed partners would follow the same set of weed and ungulate monitoring protocols, and data would be entered into a single database. This would provide a clear picture of the status of watersheds throughout the State. Toward this end: HINHP developed a needs-assessment process; compiled existing data; established a system of data standardization and input; developed a method to retrieve this information for applications, such as work assignment and report writing; and trained partnership staff to use the data.

Support of Invasive Species Committees

Realizing that protecting watersheds often means addressing threats beforehand, \$345,000 was provided from the Fund in FY 03 to support invasive species committees, as shown in Table E. Allocations to the Coordinating Group on Alien Pest Species (CGAPS) Programs included contributing \$34,000 to the salary and travel budget for the CGAPS Coordinator, \$10,000 to the publication of the enthusiastically received, "Weeds of Hawaii's Pastures and Natural Areas" by Philip Motooka, \$50,000 to vital biological control research Programs for the most invasive species in the State including *Miconia*

calvescens, *Tibouchina herbacea* and *Clidemia hirta*. In addition, statewide Programs support included \$5,000 to each DOFAW branch to provide operational support to the Invasive Species Technicians that were recently hired to improve the ability to respond to invasive species. \$30,000 was provided to initiate the development of a parrot survey and control Program. At this time technicians have been working with DOFAW cooperators on Oahu, Maui and the Big Island on priority invasive species projects.

The Invasive Species Committees have expanded and experienced successes in FY03 including the hiring and successful establishment of the Kauai Invasive Species Committee, and significant progress in containing the highest priority incipient invasive species. In the next year, increased focus on detection, evaluation and eradicable species will be pursued. With this grant, in addition to funding from several other sources, on-the-ground crews are working hard to prevent establishment or control invasives on all of the major islands.

Support for Trail Maintenance

The Fund provided \$104,000 in FY03 to assist the Statewide Trail and Access Program (Na Ala Hele) in management and maintenance of trail and access roads. Actions associated with this grant included watershed and hunting area access road surface improvements on Maui, and the acquisition and or repair of tools and equipment used to reduce noxious plant species along watershed trail corridors statewide.

YCC and Public Education

For a description of the accomplishments of the YCC and Watershed Information and Education, please see the Public Outreach, Youth Activities and Community Involvement section in the NARS section of this report.

2. COMPLIANCE WITH CHAPTER 42F, HRS, REQUIREMENTS.

All partnership and YCC projects are in accordance with the provisions in Chapter 42F, HRS.

3. ANALYSIS OF THE PROBLEMS AND ISSUES ENCOUNTERED IN MEETING OR FAILING TO MEET THE OBJECTIVES AS SET FORTH IN THE MANAGEMENT PLANS.

Natural resource protection and management are long-term efforts requiring time and energy commitments not often found in other projects. Restoration projects often take years before results are discernible. Several of the projects funded this year under NAPP, could take years to achieve the desired objectives. It is important to note that management and protection of natural areas, watersheds and native ecosystems need to continue for the long term.

Partnership and community-based management Programs require a concerted effort and

often take a long time to establish and implement. Partnership steering committees, community advisory councils and facilitated working groups have been established to help management partners address local concerns in the coming years.

Watershed partnerships have become increasingly important as landscape level issues are addressed. They expand the management focus beyond NARS, NAPP and National Park Service boundaries. Ecosystem issues are complex and cut across political, legal and geographic boundaries. Often, no one agency or organization is equipped to handle the issue in its entirety thus making cooperative partnerships a vital necessity.

4. Status of Public Hunting Opportunities.

On Molokai, the Kamakou Preserve is open for public hunting on a year-round basis for hunting of pigs, goats, and axis deer with no bag limits. Moomomi Preserve currently has no public hunting opportunities. Pelekunu Preserve has had limited public hunting opportunities in previous years. The Pelekunu Preserve is remote and rugged with little access. In FY03, Preserve staff organized volunteer ground hunts.

On Maui, public hunting on Kapunakea Preserve is allowed only with staff supervision due to liability and safety concerns. Each request is considered on a case-by-case basis to ensure that hunter access to lower portions of the Preserve is permitted while preventing disruption to the existing private agriculture operations. Waikamoi Preserve has limited volunteer hunting opportunities. Haleakala Ranch employees may hunt in the Waikamoi Preserve as long as game is available. Public hunters who are willing to follow established guidelines and sign a liability waiver and volunteer form are allowed to hunt in one unit on a limited basis. The Puu Kukui Watershed Management Area has a policy of issuing year-round, no-bag-limit permits to hunters with valid state hunting licenses for pig hunting on plantation lands below the Watershed Management Area.

The Lanai hunting community has been actively involved with removing deer from the fenced units in the Kanepuu Preserve.

5. FINANCIAL REPORT.

The Fund receives revenues from the Conveyance Tax (25% of total Tax) on real estate transactions. In FY 03, revenues were \$2,786,621 (See Table B).

The Fund supports: The NAPP (see Table C), the YCC (see Table D) and the NAPP Watershed Projects Program (See Table E). Of the \$3,300,000 total allocation for FY 03, \$3,298,947.18 was expended, as shown in the above-mentioned tables. As shown in Table E, an added benefit of NAPP funding is to provide a state cost-share for the partnerships to aggressively pursue Federal watershed and private watershed and conservation grants. In addition, the Fund supports the Forest Stewardship Program (FSP) by direct transfers, pursuant to Section 247-7, HRS. The financial report of the Forest Stewardship Fund can be found in the FSP report, pursuant to Section 195F-6 (e), HRS.

6. PLANS AND MANAGEMENT OBJECTIVES FOR THE NEXT FISCAL YEAR.

NAPP preserve management activities will be guided by completed management plans. Plan implementation will focus on eliminating or controlling the spread of non-native plants and animals that have a detrimental effect on native ecosystems. Other management considerations will include rare and endangered species protection, monitoring, research, public education and generating community support. After several years of no new NAPP preserve contracts, staff has recently been contacted by 2 landowners interested in applying for the Program. As well, Kanepuu Preserve on Lanai is expected to renew their NAPP contract at a greatly reduced funding level, due to the stainless steel fence installed during the last contract period reducing the management cost to protect the Preserve.

FY04 will be a very active year for the watershed partnerships. DOFAW and NARS staff will continue their leadership roles in these Partnership activities, both statewide and at the individual partnership level. Sections of existing management plans will be implemented as a result of developing management capacity due to, among other things, obtaining a number of federal watershed and conservation grants and the Legislature providing the state cost-share from the Fund. New managements plans will be developed for Kauai, Kohala and the Waianae Partnerships, as well as an axis deer control plan for Maui. FY 04, the fund allocations to support the above mentioned Programs are outlined in Table F. It is anticipated FY 05 allocations will fund a similar suite of projects.

This year marks the beginning of the USFWS Landowner Incentive Program, which is designed to supplement existing private stewardship Programs, such as NAPP, FSP and Watershed Projects. The additional federal funding allows additional actions to be conducted on endangered species habitat on private lands. In FY 04, staff will be assisting landowners in implementing these projects, developing projects for FY05, and continue existing multi-year projects. Although this puts additional workload on existing NARS staff, there has been excellent progress in meeting the goal of assisting natural resource management on private lands dedicated to conservation.

Detailed project plans and accomplishment reports for the NARS, NAPP, Watershed Partnership Program, and YCC, are available through links from DOFAW websites or from the:

NARS Program Manager
Department of Land and Natural Resources
Division of Forestry and Wildlife
1151 Punchbowl Street, Room 325
Honolulu, HI 96813
Telephone: 587-0054
Fax: 587-0064
E-mail : randall.w.kennedy@hawaii.gov

LNR 407 Natural Areas Management Budget Summary Fiscal Year 2003

Table A: FY03 Natural Area Reserve System Expenditures (General Fund App. 047)

Total = \$1,171,115

NARS 'A' Personnel Expenditures FY03 (27 positions)

Total = \$736,517

NARS 'B' Operating Expenditures FY03

Total = \$434,598)

Branch	'B' Account Operations Expenditures
Administration	\$38,598
Kauai	\$83,000
Oahu	\$83,000
Maui	\$100,000
Hawaii	\$130,000

Table B: Natural Area Reserve Fund Revenues FY'03 (342)

Total = \$2,786,621

Revenue Source	Time-frame	Amount
FY'03 Conveyance Bureau transfers	1/7/02-6/30/03	\$2,604,615
Investment Pool Revenues	1/7/02-6/30/03	\$182,006
	TOTAL	\$2,786,621

Table C: NAPP Reserves Expenditures FY'03 (342)

Total = \$912,790

NAPP Preserves	Budgeted Expenditures FY03
Kanepuu	\$130,588
Kapunakea	\$105,902
Kamakou	\$144,453
Moomomi	\$31,302
Pelekunu	\$121,055
Puu Kukui Watershed Management Area	\$156,832
Waikamoi	\$222,658

Table D: Youth Conservation Corps Expenditures FY03 (342)

Total = \$252,000

Activity	Budgeted Expenditures FY03
YCC student stipends	\$97,650
Program coordination contract	\$72,000
Americorp Internship stipends	\$52,000
Miscellaneous costs: operations, training, marketing, transportation and logical support costs	\$30,350

Table E: NAPP Watershed Projects Expenditures FY03 (342)

Total = \$2,135,210

Estimated NAPP Watershed Projects Expenditures for FY'03			
Project Title	Estimated Federal/Private Cost-share	NARF Cost-share	Location
CGAPS	*	\$94,000	Statewide

DOFAW Invasive Species Program	*	\$50,000	Statewide
Wildland Fire Program (SFA and VFA grants)	\$50,000	\$40,000	Statewide
Statewide Trails Program	\$240,000	\$104,000	Statewide
Recovery Actions for Hawaii's Natural Area Reserve System	\$249,094	\$103,600	Statewide
Step into the Hawaiian Forest	\$10,000	\$10,000	Statewide
Watershed I+E services	\$10,000	\$10,000	Statewide
Year of the Forest Outreach contract	*	\$20,000	Statewide
Wao Akua book production	*	\$24,000	Statewide
Statewide projects for Wildlife Conservation, Education and Education	\$450,000	\$150,000	Statewide
Statewide Safe Harbour Grants Program	\$511,086	\$140,608	Statewide
Native Dryland and Mesic Forest Protection and Restoration - Mauna Kea, Puuwaawaa, Kahikinui.	\$55,000	\$55,000	Statewide
Heritage Watershed database services	\$48,000	\$10,000	Statewide
Implementation: planning and contract administration	*	\$20,000	Statewide
Central Services	\$0	\$238,375	N/A
East Maui Watershed Partnership	\$208,656	\$175,411	Maui
WMMWP - Plan Implementation	\$212,932	\$149,358	Maui
Maui Invasive Species Committee		\$76,000	Maui
Lanai Forest and Watershed Partnership	\$30,000	\$22,000	Lanai
East Molokai Watershed Partnership	\$60,000	\$30,000	Molokai
Oahu Invasive Species Committee	*	\$51,000	Oahu
Koolau Mountains Watershed Partnership-- Plan Implementation	\$125,000	\$118,558	Oahu
Olaa-Kilauea Partnership	\$125,000	\$113,500	Hawaii
Cultural surveys for proposed watersheds	*	\$24,000	Hawaii
Fencing projects --Kau and S. Kona Forests	*	\$30,000	Hawaii
Kohala Forest - Pasture Fenceline Project Phase 2	*	\$60,000	Hawaii
Big Island Invasive Species Committee		\$65,000	Hawaii
Kona Watershed Management Plan	\$10,000	\$30,000	Hawaii
Kanaio Fence, Maui	\$90,000	\$30,000	Maui
Managements action in Limahuli Valley	\$101,500	\$37,800	Kauai
Kauai Invasive Species Committee	*	\$33,000	Kauai
Kauai Watershed On-the-ground Projects	*	\$20,000	Kauai
TOTAL	\$2,586,268	\$2,135,210	
*No match information currently available; as a result, total private/Federal Funds matching State funds underestimated.			

Table F: NARF Projects Cost-share Allocations FY'04

Total= \$3,300,000

Natural Area Reserve Fund Allocations for FY'04			
Project Title	Estimated Federal/Private Cost-share	NARF Cost-share	Location

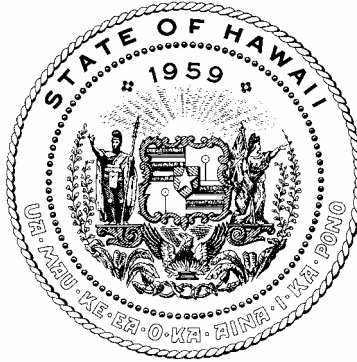
Wildland Fire Program (SFA and VFA grants)	\$100,000	\$100,000	Statewide
Plant Population Management - Propagation and Outplanting	\$2,250	\$750	Statewide
Plant Population Management - Tissue Culture, Propagation and Storage for Critical Plant Species (Lyon Arboretum)	\$36,000	\$18,000	Statewide
Plant Propagation Management - Seed Storage Facility	\$6,000	\$3,000	Statewide
Natural Area Partnership Program (NAPP)	\$460,350	\$920,700	Statewide
Funds available for additional Statewide watershed projects	*	\$52,918	Statewide
Trails Program	\$180,000	\$60,000	Statewide
Youth Conservation Corps (YCC)	*	\$144,000	Statewide
Americorp Internship Project	\$56,000	\$56,000	Statewide
Recovery Actions for Hawaii's Natural Area Reserve System	\$206,000	\$102,900	Statewide
Game Operations/Maintenance	\$60,000	\$20,000	Statewide
Wildlife Conservation Strategy Coordination and Planning	\$31,230	\$10,410	Statewide
Native Dryland and Mesic Forest Protection and Restoration - Mauna Kea, Puuwaawaa, Kahikinui.	\$55,000	\$55,000	Statewide
Plant Population Management - Genetic Safety Net Species, Oahu	\$60,000	\$19,872	Statewide
Implementation of a Statewide Landowners Incentive Program	\$180,000	\$60,000	Statewide
Step into the Hawaiian Forest	*	\$10,000	Statewide
Watershed I+E services	*	\$5,000	Statewide
Central Services	\$0	\$260,000	N/A
Heritage Watershed database services	\$30,000	\$10,000	Statewide
Implementation: planning and contract administration	\$120,000	\$41,560	Statewide
Plant Population Management - Outplanting and Monitoring - Pahole - Waianae Mts., Oahu	\$84,750	\$30,250	Oahu
Waianae Mountains Watershed and Conservation Partnership	\$20,000	\$20,000	Oahu
Plant Habitat Management - Maintenance and Enhancement - Koolau Mountains, Oahu	\$30,000	\$12,500	Oahu
Plant Habitat Management - Coastal Habitat Enhancement, Oahu	\$21,000	\$11,750	Oahu
Oahu elepaio demography, disease and predator control	\$5,000	\$5,000	Oahu
Koolau Watershed Partnership	\$195,300	\$65,100	Oahu
Funds for additional Oahu watershed projects	*	\$80,000	Oahu
Plant Habitat Management - Enclosure Maintenance - Hawaii	*	\$4,400	Hawaii
Plant Population Management - Propagation and Outplanting - Hawaii	\$42,750	\$19,100	Hawaii
Plant Population Management - Volcano rare plant facility	\$65,533	\$27,500	Hawaii
Rare Plant Propagation and Outplanting - Manuka NAR	\$16,800	\$5,600	Hawaii
HCP Devel.-Game Mammal Mgmt. North Kona	\$69,000	\$23,440	Hawaii
Plant Surveys and Inventories - S. Kona Forest Reserve, Hawaii	\$11,722	\$3,000	Hawaii
Plant Facilities Construction -Upper Waiakea Forest Reserve/Puu Huluhulu, Hawaii	\$7,500	\$2,500	Hawaii
Plant Habitat Management - Kipahoe Forest Restoration, Hawaii	\$51,750	\$19,250	Hawaii
Plant Habitat Management - Puu Makaala NAR, Hawaii	\$15,000	\$5,000	Hawaii
Plant Habitat Management - Puuwaawaa, N. Kona, Hawaii	\$15,000	\$5,000	Hawaii

Puu Waawaa Habitat Protection and Restoration	\$25,000	\$25,000	Hawaii
Development of Kohala Mountain Watershed Partnership Management Plan	\$10,000	\$20,000	Hawaii
Keauhou Ranch Fencing and Forest Restoration	*	\$26,750	Hawaii
Kohala Riparian Restoration	\$90,000	\$30,000	Hawaii
Kohala Bog Protection	\$60,000	\$20,000	Hawaii
Kohala Forest - Pasture Fenceline Project Phase 3	*	\$60,000	Hawaii
Kona Watershed Management Plan	\$10,000	\$15,000	Hawaii
Funds for additional Hawaii watershed projects	*	\$140,000	Hawaii
Maui Axis Deer Control	\$60,000	\$16,000	Maui
East Maui Partnership Habitat Restoration	\$23,500	\$6,000	Maui
South Haleakala Native Forest Restoration	\$62,450	\$62,450	Maui
Kahakuloa NAR-GMA Fencing Project	\$60,000	\$20,000	Maui
Plant Population Management - Olinda Nursery	\$24,000	\$12,000	Maui
Leeward Haleakala Watershed Restoration Partnership Coordination and On-the-ground projects	*	\$30,000	Maui
WMMWP - Plan Implementation	\$210,000	\$70,000	Maui
Plant Habitat Management - Enclosure Maintenance - Lanai, Molokai, Maui	\$15,600	\$4,400	Maui
Plant Population Management - Propagation and Outplanting - Lanai	\$2,250	\$750	Maui
Kanaio Fence, Maui	\$50,000	\$30,000	Maui
Funds for additional Maui watershed projects	\$130,000	\$130,000	Maui
MFBRP -- Research and Management	\$25,800	\$25,800	Maui
East Maui Watershed Partnership	\$195,000	\$65,000	Maui
East Molokai Watershed Partnership	\$80,000	\$40,000	Molokai
Lanai Forest and Watershed Partnership	*	\$30,000	Lanai
Plant Habitat Management - Enclosure Maintenance - Kauai	\$3,400	\$1,000	Kauai
Plant Population Management - Kokee Rare Plant Facility Propagation and Outplanting	\$50,000	\$25,000	Kauai
Puaiohi Population Research and Management	\$40,000	\$10,350	Kauai
Kauai Watershed On-the-ground Projects	*	\$25,000	Kauai
Kauai Watershed Management Plan	\$40,000	\$10,000	Kauai
Funds for additional Kauai watershed projects	\$60,000	\$60,000	Kauai
TOTAL	\$3,560,935	\$3,300,000	
*No match information currently available; as a result, total private/Federal Funds matching State funds underestimated.			

**ANNUAL REPORT TO THE TWENTY-SECOND LEGISLATURE
STATE OF HAWAII
REGULAR SESSION OF 2004**

**RELATING TO THE NARS
AND
NATURAL AREA PARTNERSHIP PROGRAM
AND
THE FINANCIAL CONDITION OF THE**

NATURAL AREA RESERVE FUND



Prepared by

**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE**

In response to Section 195-6.6, Hawaii Revised Statutes

**Honolulu, Hawaii
December 2003**